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AMENDMENT TO THE DRAWINGS:

The attached sheets of drawings include changes to Figs. 1A-2B. These sheets replaces the original sheets for Figs. 1A-2B.

In Figs. 1A-2B, the words --(prior art)-- have been added to the legends of the Figs.

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REMARKS:In the Drawings:

The drawings have been objected to.

The words --(prior art)-- have been added to Figs. 1A-2B in the attached replacement sheets. Withdrawal of the objection is respectfully requested.

Regarding the objection to Figs. 3-6, these embodiments are not prior art, but rather are environments and/or systems which may be, incorporate and/or function with the claimed invention. Therefore, the legend of Figs. 3-6 has not been amended to denote said figures as prior art.

Claims 12-15 and 26-27

Claims 12-15 and 26-27 have been objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 12-15 and 26-27 have been amended in a manner believed to obviate the objection. Particularly, the claims have been amended to further define what the head is. Inherently, each type of head, e.g., GMR and tunnel junction, will have a different structure. Therefore, said claims further limit the respective parent claim.

Claims 9-11 and 23-25

Claims 9-11 and 23-25 have been rejected under 35 USC 112, second paragraph. Claims 9-11 and 23-25 have been amended in a manner believed to obviate the rejection under 35 USC 112, second paragraph. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 1-3, 7-18 and 23-27

Claims 1-3, 7-18 and 23-27 have been rejected under 35 USC 103(a) as being anticipated by Pinarbasi (US6460243) in view of Gill (US6219208).

The analysis of obviousness was set forth in *Graham v. John Deere*, 383 U.S. 1,

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148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

First, there must be some *suggestion or motivation*, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of the references. Second, there must be a *reasonable expectation of success*. Finally, the prior art reference or combined references must teach or suggest *all the claim limitations*. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art*, and not based on applicant's disclosure (*In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; emphasis added).

Independent claims 1 and 16 have been amended in a manner that would cause any rejection based on the proposed combination of art to fail the *Graham* test. Specifically, any such rejection would fail the first and third elements of the *Graham* test.

Regarding independent claims 1 and 16, any rejection of said claims based on Pinarbasi and Gill would fail at least the third element of the *Graham* test. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Claims 1 and 16 have been amended to require that the compression layers are adapted for enhancing the antiparallel pinning of the pinned layers of the AP pinned layer structure. This feature is not found in the prior art of record. Rather, the purpose of the Rh layers in Pinarbasi is to form electrical leads. In fact, Pinarbasi goes to great lengths to indicate that Rh leads are of low stress. See col. 2, lines 64-65. Accordingly, the mere addition of Gill's AP structure is not enough to meet the claims as amended.

Because not all claim limitations are taught or suggested, any future rejection based on Gill and Pinarbasi would be improper as failing the third prong of the *Graham* test. Reconsideration and allowance of claims 1 and 16 is respectfully requested.

Regarding the first element of the Graham test, a *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). Here, Pinarbasi indicates that Rh layers with high stress cause the lead layers to separate from the sensor, causing an open circuit that destroys the read head. See Pinarbasi col. 2, lines 44-49 and 59-61. Clearly, no one would want the read head to be destroyed. Accordingly, applying the rule of *In re Geisler*, it is clear that Pinarbasi teaches away from using Rh as a compression layer. Thus, any rejection based on Pinarbasi would violate the rule of *In re Geisler*.

The Examiner is also reminded that the claimed invention as a whole must be considered. In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983).

"[A] patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole' which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103." *In re Spornoble*, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969). In the instant case, Applicant discovered the source of a problem, namely that the pinning of the AP pinned layer structure was unstable. Applicant then invented a solution.

In sharp contrast, neither Pinarbasi nor Gill propose a solution where compression layers are added to enhance the AP pinning of the pinned layers of an AP pinned layer structure, and so it cannot be said that Pinarbasi or Gill discovered the source of a problem. Nor can it be said that the combination of Pinarbasi and Gill contain the same solution for a similar problem.

Thus, a *prima facie* case would not be supported by the references. Accordingly, in order to establish a *prima facie* case of obviousness where the advance in the art lies in the discovery of the problem or source of the problem, as here, the Examiner must

provide evidence that a person of ordinary skill in the art at the time of the present invention would have expected a problem to exist. As noted by the court in *In Re Nomiya*, 509 F.2d 566, 572, 184 USPQ 607, 612 (CCPA 1975):

[Where] there is no evidence of record that a person of ordinary skill in the art at the time of [an applicant's] invention would have expected [a problem],..., it is not proper to conclude that [an invention], which solves this problem...would have been obvious to that hypothetical person of ordinary skill in the art. The significance of evidence that a problem was known in the prior art is, of course, that knowledge of a problem provides a reason or motivation for workers in the art to apply their skill to its solution.

Absent such evidence in the record, a future rejection based on Pinarbasi and Gill cannot stand.

Nor can it be said that the references would suggest the invention as a whole to those of ordinary skill at the time the invention was made, particularly where the invention requires a compression layer to enhance the pinning of the pinned layers of an AP pinned layer structure. Any assertion that the references suggest a structure having all of the claim limitations would be predicated on impermissible hindsight reconstruction based on Applicant's disclosure. The patent examination rules require that the content of the prior art is determined at the time the invention was made. The requirement "at the time the invention was made" is to avoid impermissible hindsight. Consider the following quote:

"It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

In the instant case, those skilled in the art at the time the present invention was made did not recognize the importance of the effect of a compression layer on an AP pinned layer structure, as required by the claimed invention. It was this insight that helped the inventor conceive of the claimed invention which overcomes the drawbacks of the prior art. "Because that insight was contrary to the understandings and expectations of the art, the structure effectuating it would not have been obvious to those skilled in the art."

Schenck v. Nortron Corp., 713 F.2d at 785, 218 USPQ at 700 (citations omitted).

As evidence that Applicant's insight was contrary to the understandings and expectations of the art, the Examiner is directed to Pinarbase col. 2, lines 59-61 and 64-65. As noted there, layers of high stress are identified as destroying entire read heads. Again, no one skilled in the art wants to risk destruction of the head.

As further evidence that Applicant's insight was contrary to the understandings and expectations of the art, Applicant uses such a layer to actually induce stress, in direct contravention of the teaching of Pinarbasi.

Accordingly, per the rule of *Schenck, supra*, because Applicant's insight was contrary to the understandings and expectations of the art, the claimed structure effectuating it would not have been obvious to those skilled in the art.

Because the *Graham* test is not met, allowance of claims 1 and 16 is respectfully requested.

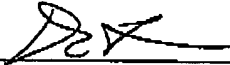
Claims 2-3, 7, 9-15 depend from claim 1, and therefore incorporate the limitations of claim 1. By virtue of their dependence, claims 2-3, 7, 9-15 are also believed to be allowable. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Reconsideration and allowance of claims 2-3, 7, 9-15 is respectfully requested.

Claims 17-18, 23-27 depend from claim 16, and therefore incorporate the

limitations of claim 9. By virtue of their dependence, claims 17-18, 23-27 are also believed to be allowable.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. HSJ920030164US1).

Respectfully submitted,

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